

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT: JOHN M. BELCEA

TITLE: TIME DIVISION PROTOCOL FOR AN AD-HOC, PEER-TO-PEER
RADIO NETWORK HAVING COORDINATING CHANNEL ACCESS
TO SHARED PARALLEL DATA CHANNELS WITH SEPARATE
RESERVATION CHANNEL

SERIAL NUMBER: 09/

FILING DATE:

GROUP: ART UNIT

EXAMINER:

To: The Commissioner of Patents and Trademarks
Washington, D. C. 20231

PRELIMINARY AMENDMENT

Sir:

In advance of the first office action, 1997, please amend the above-identified
application as follows.

IN THE CLAIMS:

Cancel claim 1, and add the following new claims.

CLAIM 51. In an ad-hoc, peer-to-peer radio system comprising a series of radio terminals, each said radio terminal comprising transceiver means for transmitting and receiving signals from other like terminals of said series of terminals, computer means, and memory means for storing program software means therein, said radio system based on time-dependent messaging having multiple parallel data channels and a control channel, the method comprising:

(a) generating communications-information for transmission based on time-division messaging;

(b) said step (a) comprising generating a series of time frames (TM) each divided into a series of time slots (TS);

(c) said step (b) comprising dedicating at least one time slot for control-channel (CC) messaging information is transmitted, and other time slots in which is transmitted channel data (CD) messaging information;

(d) when said transceiver is idle from transmitting or receiving messaging information in said step (a), sending out maintenance message-signaling toward other said radio terminals for maintaining a link with at least one other said radio terminal;

(e) said step (d) comprising transmitting said maintenance status messaging message-signaling over the control channel.

CLAIM 52. In an ad-hoc, peer-to-peer radio system comprising a series of radio terminals, each said radio terminal comprising transceiver means for transmitting and receiving signals from other like terminals of said series of terminals, computer means, and memory means for storing program software means therein, said radio system based on time-dependent messaging having multiple parallel data channels and a control channel, the method comprising:

- (a) establishing a permanent link between a source terminal and a destination terminal or gateway;
- (b) transmitting data from said source terminal to the destination;
- (c) establishing a temporary link between said source terminal and said destination when the data being transmitted by said source terminal surpasses a predetermined limit for said permanent link.

CLAIM 53. The method according to claim 52, wherein said time-dependent messaging is made up of a series of time frames with each time frame having a plurality of time slots, said step (c) comprising utilizing at least three said time frames.

CLAIM 54. The method according to claim 52, wherein said permanent link comprises a plurality of said radio terminals, said method further comprising:

- (d) controlling the power of transmission of each said radio terminal of said permanent link;
- (e) said step (d) comprising achieving a relatively stable state wherein each terminal of said plurality of terminals of said permanent link stabilizes at a power

level reflective of the relative path loss between it and other terminals of said permanent link.

CLAIM 55. A method of reducing the power loss between terminals in an ad-hoc, peer-to-peer radio system comprising a series of radio terminals, each said radio terminal comprising transceiver means for transmitting and receiving signals from other like terminals of said series of terminals, computer means, and memory means for storing program software means therein, said radio system based on time-dependent messaging having multiple parallel data channels and a control channel, the method comprising:

- (a) controlling the power of transmission of each said radio terminal of a service group of said terminals; and
- (b) said step (a) comprising creating a relatively stable power-level state wherein each terminal of said plurality of terminals stabilizes at a power level reflective of the relative path loss between it and other terminals of said permanent link.

CLAIM 56. The method according to claim 56, wherein said step (b) comprises:

- (c) applying a power-perturbation to said service group of terminals to cause at least some of said terminals to adjust the power level to a lower value.

CLAIM 57. The method according to claim 56, wherein said time-dependent messaging is made up of a series of time frames with each time frame having a plurality of time slots, said step (c) comprising applying said perturbation in the same time frame on all said terminals of said service group.

CLAIM 58. The method according to claim 56, wherein said time-dependent messaging is made up of a series of time frames with each time frame having a plurality of time slots, said step (b) comprising utilizing at least three said time frames.

R E M A R K S

The present amendment has been submitted in order to add new claims 51-58. No new matter has been added.

Respectfully submitted,

By: 

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